

## Outcomes of mental health pharmacist-managed electronic consults at a Veterans Affairs health care system

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### Abstract

**Introduction:** The demand for mental health services has increased as more veterans have been diagnosed with—and sought care for—one or more mental health conditions. Within the South Texas Veterans Health Care System (STVHCS), providers may submit electronic consults (e-consults) to mental health clinical pharmacy specialists for medication review and recommendations. These consults aim to manage veterans with uncomplicated mental health conditions in primary care, making specialty mental health providers more available for those who need such services. Pharmacists have improved outcomes and access to care for conditions such as diabetes and hypertension, but currently, there is limited evidence demonstrating the impact of pharmacists in mental health.

**Methods:** This quality improvement project assessed the effectiveness of the e-consult service. Information was collected through a retrospective chart review of STVHCS veterans with the corresponding consult note placed in their chart from May 2014 through December 2015. Numbers of recommendations implemented and veterans maintained in primary care were analyzed as markers of effectiveness. Time and cost savings were secondarily explored.

**Results:** A total of 361 consults were submitted for 353 unique patients. Of the 322 patients included in analyses, a total of 301 unique patients (93.5%) were maintained in primary care for at least 3 months. Of the 21 not maintained in primary care, 15 recommendations were implemented; of those maintained in primary care, 271 recommendations were implemented.

**Discussion:** This service improves mental health care—and patient access—by promoting successful management and maintenance of less complicated patients in primary care.

**Keywords:** mental health, behavioral health, electronic consult, primary care, pharmacist, depression, anxiety, post-traumatic stress disorder

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## Introduction

Pharmaceutical care was described decades ago as direct, responsible provision of medication-related care in order to achieve definite outcomes that improve a patient's quality of life.<sup>1</sup> Health care continues progressing to more collaborative care between physicians and other health care professionals, including pharmacists, to optimize care and improve outcomes. For years, pharmacists have been shown to improve outcomes and access to care for patients in primary care, including management of diabetes mellitus, hypertension, and anticoagulation, with cost avoidances ranging from \$55 000 to more than \$300 000 per year.<sup>1-5</sup> Currently, there is limited evidence demonstrating pharmacists' impact in mental health.<sup>6,7</sup>

In recent years, the Veterans Health Administration and Department of Defense have seen a dramatic rise in the number of patients with mental health conditions, challenging the resources currently available to appropriately care for these patients. Nearly 2 million Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn veterans have become eligible for Veterans Affairs (VA) health care since 2002, more than 1 million (61%) of whom have obtained such care.<sup>8</sup> As of March 2015, 58% (685 540 veterans) of those who obtained VA care had received at least a provisional mental health diagnosis, the second most common diagnostic category after musculoskeletal concerns.<sup>8</sup> The most common mental health diagnoses were post-traumatic stress disorder (PTSD, 55.2%), depressive disorders (45.0%), and anxiety disorders other than PTSD (43.1%).<sup>8</sup>

The primary care–mental health (PC-MH) service agreement at the South Texas Veterans Health Care System (STVHCS) outlines methods for management and referral of patients with mental health conditions. Uncomplicated mental health conditions, such as depression, anxiety, and PTSD, should be managed through at least 2 adequate antidepressant medication trials, if appropriate, prior to referral. Patients with schizophrenia, bipolar spectrum disorders, complicated depression or anxiety (eg, with suicidal ideation or psychosis), treatment-resistant depression, and other more complicated conditions, should be referred to specialty mental health.

Primary care providers (PCPs) may not be as experienced or as available as mental health clinical pharmacy specialists (CPSs) for managing medications for mental health conditions and providing the requisite close follow-up. At STVHCS, electronic consults (e-consults) may be submitted by health care providers to mental health CPSs for recommendations regarding optimal management of psychotropic medications for mental health conditions. The responding CPS has 7 days to review the patient's

chart, including medical and mental health conditions, reason for consult submission, and prior psychiatric medication trials, if any, and then document this review and provide recommendations through a note in the chart. Recommendations vary but are typically to initiate, change, or continue psychotropic medication(s) or, in a small subset, to refer patients to specialty mental health if they meet PC-MH referral criteria.

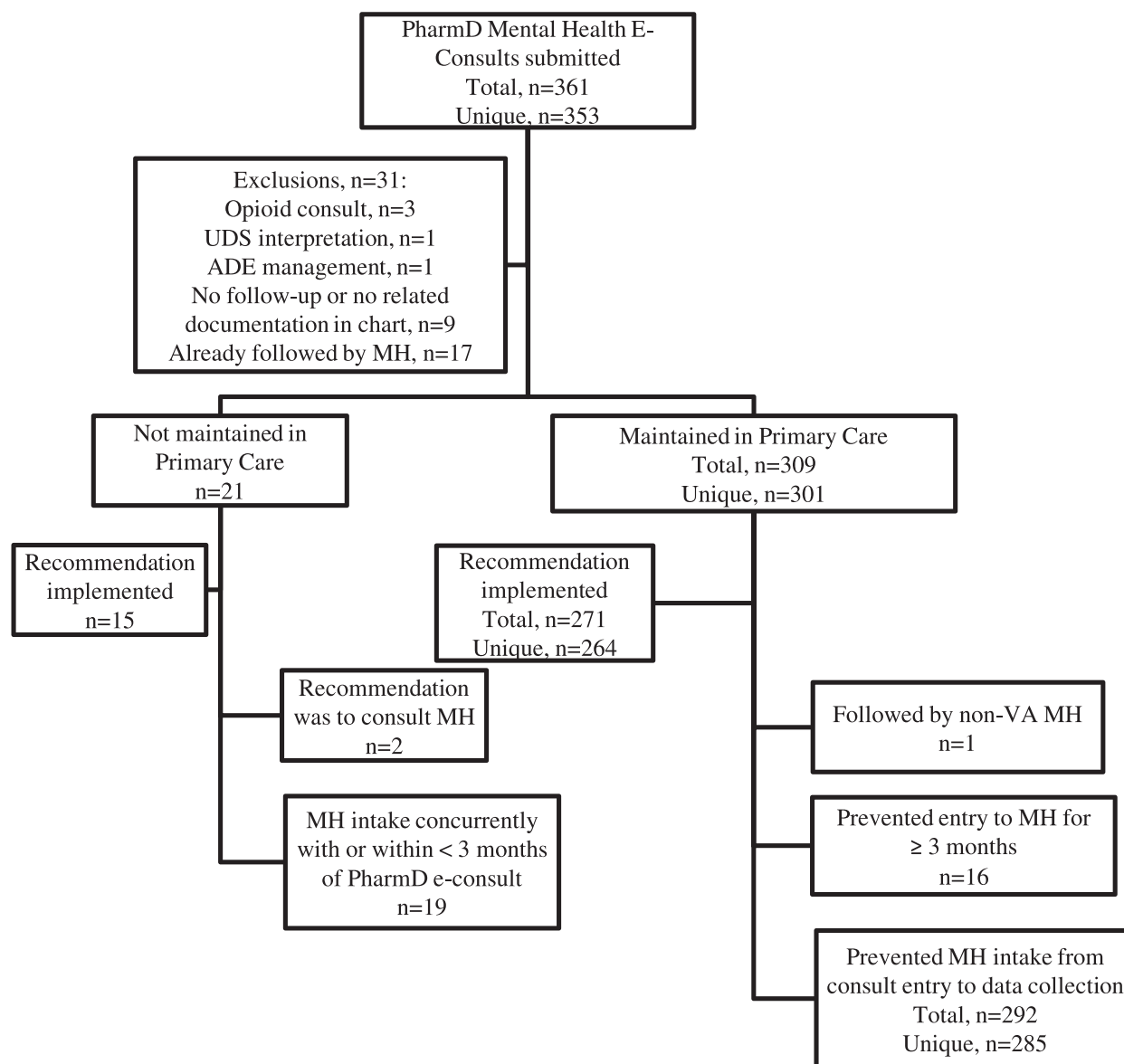
The primary goal of the service is to manage patients with uncomplicated mental health conditions in primary care. This would leave specialty mental health providers more available for patients who meet PC-MH service agreement referral criteria and provide a more general arena to obtain mental health–related treatment for patients hindered by barriers, such as social stigma. The e-consults theoretically decrease time to care for patients with uncomplicated mental health conditions as these consult reviews and recommendation implementation do not require additional visits. This should subsequently decrease specialty mental health visits among patients not meeting criteria for such care, improving access for patients who need specialty services. The service was initiated at STVHCS in May 2014, and its value has not previously been assessed.

This quality improvement project was developed to evaluate the effectiveness of the mental health e-consult service by exploring the management and maintenance of patients in primary care following the e-consult as long as patients did not initially meet criteria for specialty mental health services. The apparent efficacy may be used later to guide service improvements.

## Methods

Information was collected through a retrospective chart review of STVHCS veterans. The initial study population included any “PharmD MH Cons E-consult” note placed in patients' charts from May 2014 through December 2015. Patients who were already followed by a VA psychiatrist or other specialty mental health prescriber, whose consult reason did not align with the e-consult purpose, or who did not receive follow-up within STVHCS following the consult were excluded from analyses. Patients' mental health diagnoses were recorded along with consult submission and response dates, reason, recommendation(s) made, whether the recommendation was implemented (and if so, the outcome since implementation), and, finally, whether the patient was subsequently maintained in primary care or referred to mental health.

The primary outcomes as markers of effectiveness of the service were the number of recommendations implemented and, more notably, the number of patients maintained



**FIGURE:** Patient/consult flow diagram; ADE = adverse drug event; MH = mental health; Total = number of consults in that area; UDS = urine drug screen; Unique = individual patients (unless otherwise stated, numbers in each box are for unique patients); VA = Veterans Affairs

in primary care. Theoretical time- and cost-savings were secondarily reviewed as markers of access to care and impact on wait times for patients meeting criteria for specialty mental health. Cost-savings were based on average annual wages for psychiatrists and pharmacists in the United States: \$200 000 and \$120 000, respectively.<sup>9,10</sup> If no consult service was available and all patients were referred to specialty mental health, each would be seen roughly 4 times within the first year of referral, including an initial 60-minute intake visit and three 30-minute follow-up visits. Clinical pharmacy specialists average 30 minutes to review and respond to each consult regardless of the reason for submission or whether the patient already sees specialty mental health. For calcula-

tion purposes, a CPS or psychiatrist full-time equivalent (FTE) is 40 h/wk for 52 wk/y.

## Results

Consults were submitted for 353 unique patients plus 8 reconsults, totaling 361 consults in 20 months (Figure). Thirty-one patients were not included in the primary analysis due to being submitted for inapplicable reasons, which left 322 patients potentially eligible for maintenance in primary care. Patients' mental health diagnoses at the time of consult included depression, anxiety, PTSD, insomnia, bipolar disorder, and alcohol/substance use disorders (Table 1). Many patients had more than 1 relevant diagnosis.

**TABLE 1: Mental health diagnoses at the time of consult submission**

Mental Health Condition	Number of Patients (%)
Depression	203 (56.2)
Post-traumatic stress disorder	123 (34.1)
Anxiety	120 (33.2)
Alcohol/substance use disorder	29 (8.0)
Insomnia	23 (6.3)
Bipolar disorder	4 (1.1)

Most recommendations were implemented (87.7%), and the overwhelming majority of these patients were maintained in primary care. Recommendations were consistent and similar across all CPSs, and examples of recommendations are provided in Table 2. Of the 322 patients, 301 (93.5%) were maintained in primary care for at least 3 months whereas 21 patients (6.5%) were not. Of those not maintained in primary care, most recommendations were implemented (15/21, 71.4%). However, patients had specialty mental health intake concurrently with or within fewer than 3 months of the consult in a majority of cases (19/21).

Reasons 21 patients were not maintained in primary care included mental health referral despite appropriateness for primary care ( $n=8$ ); 2 or more medication trials and/or persistent symptoms that warranted mental health referral ( $n=6$ ); recommendation to consult mental health ( $n=2$ ); noncompliance with treatment plan ( $n=2$ ); patient or family request for mental health ( $n=2$ ); and persistent adverse events ( $n=1$ ). Those referred to mental health despite appropriateness for primary care included inadequate medication trial(s) in primary care, provider not agreeable to managing the recommendation, or provider referring to specialty mental health instead of implementing the recommendation.

Most providers implemented the recommendation(s) or at least reached out to the patient to discuss the recommendation within 0 to 5 days of CPS response ( $n=194$ ). Twenty-eight providers responded within 6 to 10 days, 9 within 11 to 20 and 21 to 30 days, and 19 responded after 30 days. Time to requesting provider's response was not considered for patients already followed by mental health or in cases in which the recommendation was not implemented, was to continue what the patient was already taking, or was for nonpharmacological measures or referral to mental health.

## Time and Cost Savings

As stated, 361 consults were submitted over 20 months, normalized to 217 consults per year. If this continues,

considering the FTE and wages given in the "Methods" section, the time spent annually on e-consults is 0.052 CPS FTE ( $217 \text{ consults/y} \times 30 \text{ min/consult} \div 124\,800 \text{ min/FTE}$ ) or \$6260 in wages because CPSs review and respond to all the e-consults regardless of intent. If this service did not exist and all relevant patients ( $n=199$ : 322 patients in the primary analyses plus 10 others for adverse drug event management or with no subsequent follow-up, normalized to 12 months) were referred and followed up with specialty mental health, this would require 0.24 psychiatrist FTE ( $199 \text{ patients/y} \times 150 \text{ minutes in referral y/patient} \div 124\,800 \text{ min/FTE}$ ) or \$47 840 in wages. The cost savings of consults maintaining patients in primary care averaged \$41 580 per year.

## Discussion

The mental health CPS e-consult service is utilized by providers in every primary care clinic within STVHCS. The predominant diagnoses, depression, anxiety, and PTSD, mirrored the most common mental health diagnoses documented in veterans who have become eligible for VA health care since 2002.<sup>8</sup> These are common conditions that may not require referral to specialty mental health and therefore are appropriate to manage in primary care.

Most recommendations were implemented, and patients were typically maintained in primary care for at least 3 months as a result of the service. The largest subset not maintained in primary care was referred to mental health despite appropriateness for primary care. These 8 patients could have been reconsulted or referred to behavioral health providers embedded in primary care for closer management and follow-up.

Clinical pharmacy specialists responded to the vast majority of consults within 1 to 2 days, and most providers acted on the recommendation within 10 days. This decreased time to care for such patients as they did not have to wait for a face-to-face visit with another provider. Theoretical time- and cost-savings support the value of the e-consult service. Mental health CPSs have specialized training in psychiatry and are widely utilized in STVHCS to help manage any severity of mental health conditions. Utilizing this service allows PCPs to obtain recommendations from medication experts in mental health while saving the time of other specialty mental health providers. Although the estimated \$40 000 saved by the service does not cover a psychiatrist or mental health CPS FTE, contributing this money toward a mental health CPS position offers another provider to help meet the clinic access needs of the overwhelming number of veterans with mental health conditions while sufficiently

**TABLE 2: Examples of pharmacist recommendations for patients maintained in primary care**

Patient Background	Example Recommendation
Patient with history of anxiety disorder NEC and depressive disorder NEC with prior lack of response and feeling “zoned out” with trial of low-dose sertraline, persistent depressive symptoms	Initiate fluoxetine 10 mg daily for 7 d, then 20 mg daily
Patient with history of depressive disorder and PTSD with persistent depressive symptoms despite sertraline 150 mg daily; patient also feeling some anxiety symptoms and experiencing side effects of sexual dysfunction	Discontinue sertraline and initiate fluoxetine 20 mg daily for 14 d, then increase to 40 mg daily if tolerating
Patient with history of hypothyroidism and anxiety/depressive symptoms related to multiple sclerosis transferring care from another facility where patient had been on lorazepam (up to 0.5 mg twice daily) for 9 y and bupropion SR (up to 200 mg twice daily) for 14 y with no other documented trial of another antidepressant/psychotropic medication	Continue bupropion SR 200 mg twice daily for depression; initiate sertraline 25 mg daily for 2 wk, then 50 mg daily (may further increase this as necessary to target anxiety symptoms) and taper lorazepam over 2 mo: lorazepam 0.25 mg every morning and 0.5 mg at bedtime for 2 wk, then 0.25 mg twice daily for 4 wk, then 0.25 mg at bedtime for 2 wk, then discontinue
Patient with history of PTSD and diabetic neuropathy currently prescribed citalopram 40 mg daily but reporting continued low mood; no other psychotropic medication history	Taper and discontinue citalopram: 20 mg daily for 7 d, then discontinue; may at the same time (cross-taper) initiate venlafaxine extended-release 37.5 mg every morning for 7 d, then 75 mg every morning for 7 d, then 150 mg every morning; can continue to increase up to 225 mg every morning if clinically indicated in the future (higher doses generally more effective for neuropathy)
Patient with history of chronic low back pain, hypertension, GERD, and PTSD; recently transitioning care to Veterans Affairs and prescribed citalopram 40 mg daily and omeprazole 20 mg daily	Patient had been taking esomeprazole in addition to citalopram prior to transition of care, and also had history of concurrent omeprazole and citalopram 40 mg daily 4 y prior without any noted issues; no preexisting cardiac abnormality per available records, recent serum potassium within normal limits; recommend to continue citalopram 40 mg daily given concern for risk of mood/PTSD decompensation, but additionally obtain EKG and magnesium to ensure patient is not at increased risk of QT prolongation
Patient with history of unspecified depressive disorder, unspecified anxiety disorder, and generalized anxiety disorder, currently prescribed lorazepam 1 mg 3 times daily monotherapy for 7 y; remote history of good response to fluoxetine 30 mg daily, though tapered off fluoxetine 12 y prior to consult due to improvements in mood, managed by psychiatry and primary care, who never prescribed an antidepressant again	Initiate fluoxetine 10 mg daily for 14 d, then increase to 20 mg daily; may increase to 30 mg (patient’s previously stable dose), or 40 mg in 6–8 wk; also, taper off benzodiazepine: convert lorazepam to clonazepam 0.75 mg twice daily for 1 wk, then clonazepam 0.5 mg twice daily for 3 wk, then 0.25 mg twice daily for 4 wk, then 0.25 mg at bedtime for 4 wk, then discontinue; consider providing hydroxyzine 25 mg 3 times daily as needed for anxiety during and following benzodiazepine taper
Patient with history of recurrent major depressive disorder, requesting to start an antidepressant but concerned about weight gain; medical history significant for morbid obesity and fatty liver, referred to nutrition services for dietary counseling to target weight loss; no history of psychotropic medications and no seizure history noted, nor other medical conditions that may predispose to seizures such as open traumatic brain injury or eating disorders; PCP recently initiated topiramate 25 mg every morning for migraine prophylaxis	Start bupropion SR 150 mg every morning for 3 d, then 150 mg twice daily thereafter; may also consider titrating topiramate up to 100 mg total daily dose to target appetite/weight even if migraines are controlled on lower dose; also noted that lower topiramate doses, less than 200 mg daily, are less likely to cause cognitive side effects that have been commonly associated with topiramate

EKG = electrocardiogram; GERD = gastroesophageal reflux disease; NEC = not elsewhere classified; PCP = primary care provider; PTSD = post-traumatic stress disorder; SR = sustained-release.

covering the time spent reviewing and responding to the e-consults (0.052 FTE).

A limitation of this review is its retrospective nature as the duration of time from consult submission to chart review

ranged from a few months to 1.5 years. Therefore, a comprehensive assessment of subsequent mental health referral is not possible. Additionally, relying on prescriptions and notes written in veterans’ charts limits a complete understanding of veterans’ conditions, prefer-



ences, past trials, and discussions with providers regarding medications. For many patients, there was no documentation following consult response, or a prescription was entered with no subsequent documentation regarding medication success or lack thereof. Last, time- and cost-savings calculations are limited as they compare psychiatrists and CPSs without considering other specialty mental health providers with prescribing privileges. However, the authors believe this limitation is somewhat mitigated by the fact that CPSs are medication experts and are well equipped to effectively manage these conditions. Additionally, utilizing e-consults in lieu of specialty mental health providers (psychiatrists, midlevel providers, or other mental health providers with prescribing privileges) leaves these providers more available for individuals needing more specialized care.

The rate of implemented recommendations and maintenance of patients in primary care lends credence to the CPSs' clinical judgment and their value in helping maintain patients in primary care according to the PC-MH service agreement. This service is not and should not be used to replace specialty mental health consults for veterans who may need specialized care and who meet PC-MH service agreement criteria for referral. However, it should encourage further consideration by PCPs regarding the appropriate management setting as a number of patients had a consult for specialty mental health submitted concurrently with the e-consult. If unsure about the appropriate level of care, it is prudent for providers to submit the e-consult so that a mental health CPS can review the veteran's history and make a recommendation accordingly.

## Conclusion

The mental health pharmacist-managed e-consult service impacts mental health care—and its access by patients—by promoting successful management and maintenance of less complicated patients in primary care. Despite 10 different mental health CPSs responding to the consults, the recommendations were uniform across providers, and an overwhelming majority of these were implemented even in patients later referred to specialty mental health.

This service offers evidence-based recommendations to manage uncomplicated mental health conditions in primary care and, in doing so, may improve access to specialty mental health for veterans who need it.

## References

1. American Society of Health-System Pharmacists. ASHP statement on the pharmacist's role in primary care. *Am J Health Syst Pharm.* 1999;56(16):1665-7. PubMed PMID: [10459388](#).
2. Galt KA. Cost avoidance, acceptance, and outcomes associated with a pharmacotherapy consult clinic in a Veterans Affairs Medical Center. *Pharmacotherapy.* 1998;18(5):1103-11. PubMed PMID: [9758322](#).
3. Ragucci KR, Fermo JD, Wessell AM, Chumney EC. Effectiveness of pharmacist-administered diabetes mellitus education and management services. *Pharmacotherapy.* 2005;25(12):1809-16. DOI: [10.1592/phco.2005.25.12.1809](#). PubMed PMID: [16305300](#).
4. Kennedy AG, Chen H, Corriveau M, MacLean CD. Improving population management through pharmacist-primary care integration: a pilot study. *Popul Health Manag.* 2015;18(1):23-9. DOI: [10.1089/pop.2014.0043](#). PubMed PMID: [25029631](#).
5. Wilt VM, Gums JG, Ahmed OI, Moore LM. Outcomes analysis of a pharmacist-managed anticoagulation service. *Pharmacotherapy.* 1995;15(6):732-9. PubMed PMID: [8602380](#).
6. Gilbody S, Whitty P, Grimshaw J, Thomas R. Educational and organizational interventions to improve the management of depression in primary care: a systematic review. *JAMA.* 2003;289(23):3145-51. DOI: [10.1001/jama.289.23.3145](#). PubMed PMID: [12813120](#).
7. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Arch Intern Med.* 2006;166(21):2314-21. DOI: [10.1001/archinte.166.21.2314](#). PubMed PMID: [17130383](#).
8. Analysis of VA health care utilization among Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND) veterans [Internet]. Washington: US Department of Veterans Affairs; 2015 Sep [updated 2016 Jan 15; cited 2016 Mar 18]. Available from: <http://www.publichealth.va.gov/docs/epidemiology/healthcare-utilization-report-fy2015-qtr2.pdf>
9. Occupational Employment and Wages, May 2015: 29-1066 Psychiatrists [Internet]. Washington: US Bureau of Labor Statistics Division of Occupational Employment Statistics; 2015 May [updated 2016 Mar 30; cited 2016 Aug 10]. Available from: <http://www.bls.gov/oes/current/oes291066.htm>
10. Occupational Employment and Wages, May 2015: 29-1051 Pharmacists [Internet]. Washington: US Bureau of Labor Statistics Division of Occupational Employment Statistics; 2015 May [updated 2016 Mar 30; cited 2016 Aug 10]. Available from: <http://www.bls.gov/oes/current/oes291051.htm>